

REMARKS

Claims 26-31 and 34-46 are currently pending in the subject application. In the final Office Action of November 9, 2005, claims 26-31 and 34-46 stand rejected under 35 U.S.C. § 112, first paragraph, as assertedly failing to comply with the written description requirement, claims 26-31, 34-41, and 45 stand rejected under 35 U.S.C. § 112, first paragraph, as assertedly being indefinite, claims 26-31, 36, 39-40, and 42-46 stand rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by U.S. Patent No. 6,187,367 to Cho et al. ("Cho") and claims 34-35, 37-38, and 41 stand rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Cho in view of U.S. Patent No. 3,873,740 to Terrell ("Terrell"). Applicants respectfully traverse these rejections and submit the enclosed amendments and remarks to overcome the rejections.

In the present response, Applicants have amended claim 26 to correct the indefiniteness cited by the Examiner in his rejection of claim 26. The amendment reorders the components of the soy protein product mixture to clarify the composition. Applicants submit that no new matter is added by this amendment and that the amendment places the application in condition for allowance. Applicants have also amended claim 42 to clarify that each of the components of the mixture are dry, thus resulting in the soy protein product mixture being dry. Applicants submit that no new issue is raised by this amendment and the amendment places the application in condition for allowance by clarifying the scope of the claim. That all components of the mixture are dry is supported by the specification as filed as set forth herein. Therefore, the amendment to claim 42 does not present new subject matter. Applicants respectfully request entrance of the amendments.

Rejections Under 35 U.S.C. § 112, First Paragraph

*Written Description*

The Examiner rejects claims 26-35, and 34-46 under 35 U.S.C. § 112, first paragraph, for assertedly failing to comply with the written description requirement. Specifically, the Examiner states that Applicants did not specify where the added claim elements submitted by amendment in the Response to Office Action filed September 30, 2005 ("September Response") are supported by the specification. Applicant respectfully sets forth herein where the amendments submitted in the September Response find support in the specification of the application as filed.

In the September response, claim 26 was amended to recite "said soy protein product mixture comprises a blend of one or more acidic phosphates, a gum selected from the group consisting of xanthan gum, locust bean gum, carrageenan, pectin and guar gum, and a soy protein product." Support for the property that the soy protein mixture comprises a blend of the recited components may be found in the specification as filed, for example, at paragraph [0037] where the soy protein product mixture is defined, and in the Examples at paragraphs [0070], [0072], [0074], and [0076] where the soy protein product mixture comprising blends of the recited components are submitted to gel tests, as well as Tables 1-6 listing various embodiments of the soy protein product mixture compositions. Support for the amendment that the soy protein product mixture may comprise a gum selected from the group consisting of xanthan gum, locust bean gum, carrageenan, pectin and guar gum may be found in paragraph [0057] of the specification as filed. (See, paragraph [0057], lines 10-14).

In the September response, claims 26, 34, 36, and 37 were amended to further define the “mixture” as the “soy protein product mixture”. Support for this amendment may be found throughout the specification as originally filed, for example, at paragraph [0037] where soy protein product mixture is defined, and in Example 6, paragraph [0079], where the soy protein product mixture was added to a food product to alter one or more textural properties of the food product.

The September response also added new claims 42-46 which are supported throughout the specification. For example, claim 42 present a process for preparing a food product, comprising combining a soy protein product, an acidic phosphate and a gum to form a soy protein product mixture, wherein the soy protein product mixture is dry; and adding the soy protein product mixture to a food product, thus altering a textural property of the food product as compared to the food product without addition of the soy protein product mixture. As set forth above, the composition of the soy protein product mixture is described throughout the specification as filed, for example, at paragraph [0037]. That the soy protein product mixture is dry is supported by the fact that all of the components (i.e., the soy protein product, the sodium acid phosphate, and the gum) are dry. For example, soy protein concentrate is defined at paragraph [0035] as a “powder” and acidic phosphates are defined at paragraph [0011] as producing a solution with a pH below 7 when put in solution (thereby indicating that the acidic phosphates are in dry, non-solvated form). Tables 1-6 indicate that the soy protein product mixture contained carrageenan ME 8121 from FMC BioPolymer of Philadelphia, PA. Attached in Appendix A is a FMC BioPolymer Material Safety Data Sheet which indicates that carrageenan ME 8121 is a dry powder. (See, Appendix A,

page 4, section 9 - Physical and Chemical Properties). Tables 1-6 also disclose formulations for the soy protein product mixtures, wherein each formulation contains 100% of dry components (i.e., there is no water present in the soy protein product mixture). The step of "adding the soy protein product mixture to a food product, thus altering a textural property of the food product" is supported throughout the specification, for example, at paragraph [0004] and Example 6.

The September response's new claim 43 finds support in the specification as filed, for example at paragraph [0036], where the term soy protein product is defined as "any one or more of soy protein concentrate, isolated soy proteins, and soy flour." (Page 6, paragraph [0036]). The September response's new claim 44 finds support in the specification as filed, for example at paragraph [0057], where it states that "said acidic phosphates are one or more of sodium acid pyrophosphate, potassium metaphosphate, sodium aluminum phosphate, monoammonium phosphate, monocalcium phosphate, ferric orthophosphate, monopotassium phosphate, hemisodium phosphate and monosodium phosphate." (Page 11, paragraph [0057]). The September response's new claim 45 finds support in the specification as filed, for example at paragraph [0057], where it states that "said composition additionally comprises one or more of . . . xanthum gum, locust bean gum, carrageenan, pectin and guar gum." (Page 11, paragraph [0057]).

The September response's new claim 46 sets forth a process for preparing a food product, comprising combining a soy protein concentrate, sodium acid pyrophosphate, and a carrageenan to form a soy protein product mixture, wherein the soy protein product mixture is dry; and adding the soy protein product mixture to a food

product, thus altering a textural property of the food product. The various properties of claim 46 find support in the specification as filed at paragraphs [0004], [0011], [0035], [0037], [0057], and Tables 1-6, as described for new claim 42.

The subject matter of the amendments and new claims added in the September Response contain subject matter which is described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention. Withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, written description requirement is respectfully requested.

*Indefiniteness*

The Examiner rejects claims 26-31, 34-41, and 45 under 35 U.S.C. § 112, first paragraph, for assertedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that the wording of claim 26 was not clear as to whether all of the following components are needed for the mixture, or simply one of them. Claim 26 has been amended to clarify the ambiguity asserted by the Examiner. As amended, claim 26 reads "said soy protein product mixture comprises a blend of: a gum selected from the group consisting of xanthan gum, locust bean gum, carrageenan, pectin and guar gum; one or more acidic phosphates; and a soy protein product" and clearly indicates that the blend comprises a gum, one or more acidic phosphate, and a soy protein product.

The Examiner states that in claims 26 and 45, it is not clear how carrageenan and pectin can be considered gums. Applicants submit that carrageenan

and pectin are considered gums by those skilled within the food arts. In support of this assertion, applicants attach hereto in Appendix B a copy of FDA Technical Bulletin Number 5 from the United States Food & Drug Administration Center for Food Safety & Applied Nutrition entitled "Microanalytical Procedures Manual" (available at <http://www.cfsan.fda.gov/~dms/mpm-4.html>, last visited February 6, 2006). Section 5(A) includes methods for detecting contamination in plant gums. Applicants direct the Examiner's attention to Table V-1 Natural Gums Covered by the Plant Gum Method (page 8) which lists "pectin" as a gum obtained from plant extracts and "carrageenan" as a gum obtained from seaweed extracts. One having ordinary skill in the food art would understand that both pectin and carrageenan are considered to be members of the class of gums.

Applicants have fully addressed the Examiner's concerns regarding indefiniteness under 35 U.S.C. §112, first paragraph. Withdrawal of the rejection of claims 26-31, 34-41, and 45 is respectfully requested.

#### Rejections Under 35 U.S.C. § 102

*Cho*

Claims 26-31, 36, 39-40, and 42-46 stand rejected under 35 U.S.C. § 102(e) as assertedly being anticipated by Cho. Applicants traverse this rejection for the following reasons.

Cho discloses a protein-starch composition that is formed by first forming an aqueous slurry of soy protein material that is then denatured by heating, such as by jet-cooking. "The protein material is denatured to unfold the protein material so the

protein-starch complex can be formed and to enhance the gel and emulsion forming properties of the protein material.” (Column 5, lines 21-42, emphasis added).

Denaturing the protein material changes (i.e., unfolds) the structure of the protein material by breaking intra- and inter-strand protein-protein bonds within the protein. The denatured protein material slurry is then cooled and mixed with a starch material and, optionally, other materials. The starch-protein slurry is then dried to form a protein-starch composition where “[s]ome of the starch material is at least partially encapsulated in protein”. (Column 7, lines 41-52). Denaturing the protein material is required in Cho to form the encapsulated protein-starch complex.

Unlike Cho, the pending claims are directed to methods of preparing a food product comprising mixing or combining a blend of; a soy protein product; one or more acidic phosphate; and a gum to form a dry soy protein product mixture; and adding the soy protein product mixture to a food product to alter a textural property of the food product. The soy protein product is selected from the group consisting of soy protein isolates, soy protein concentrates, soy flour, and combinations thereof. The soy protein product in pending claims has not been denatured and, instead, has the original structure of the soy protein (i.e., the intra- and inter-strand protein-protein bonds within the soy protein are intact). The soy protein product (and consequently the soy protein product mixture) in the pending claims must necessarily be different than the denatured soy protein (and consequently the protein-starch composition) of Cho.

For a claim be anticipated under 35 U.S.C. § 102, an anticipatory reference must disclose, either explicitly or implicitly, each and every element of the claim. Cho discloses and claims a composition comprising a denatured soy protein,

whereas the pending claims comprise a blend of a non-denatured soy protein product, one or more acidic phosphate and a gum. Therefore, Cho does not disclose or suggest each and every element of the claimed invention. Applicants respectfully request that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 34-35, 37-38, and 41 stand rejected under 35 U.S.C. § 103(a) for assertedly being obvious over Cho in view of U.S. Patent No. 3,873,740 to Terrell ("Terrell"). To establish *prima facie* obviousness under 35 U.S.C. § 103, there must be a) some suggestion or motivation to modify the references or combine the teachings, b) a reasonable expectation of success, and c) the references must teach each and every element of the claims. Applicants traverse this rejection for at least the reasons that there is no motivation or suggestion to combine the references nor do they teach each and every element of the claims.

Cho discloses a protein-starch composition comprising denatured soy protein. As discussed above, denaturing alters the chemical structure of a protein by breaking intra- and inter-strand protein-protein bonds. The protein-starch composition therefore has a different molecular structure than the claimed invention. Further, Cho teaches away from using a dry blend of a non-denatured soy protein. Specifically, in Example 8 (column 12) Cho compares the denatured protein-starch composition to a dry non-denatured protein-starch composition and shows that the non-denatured protein-starch blend shows inferior results, thereby teaching away from the use of a dry denatured blend.



Terrell discloses a method of producing meat food mixes for use in making cured, meat food products. Terrell requires the use of an edible coarsely-divided, textured, extrusion-expanded protein. The extrusion-expanded protein preferably is soy protein. (Column 13, lines 59-65). Terrell does not teach adding a blend of one or more acidic phosphates, a gum, and a soy protein product to a food product. Instead, Terrell teaches subjecting an admixture of meat, salt and water to a rehydrated protein material (coarsely-divided textured, extrusion-puffed, soy protein and soy protein concentrate) along with other seasoning, salts and additional meat. (See *e.g.*, Example II, columns 20-21). Terrell, alone or in combination with Cho, does not disclose or suggest a dry blend of a soy protein product, one or more acidic phosphates and a gum, as claimed in the subject application.

Further there is no motivation to combine Cho and Terrell since Cho requires the formation of a denatured protein-starch composition and Terrell requires a protein material comprising coarsely-divided textured, extrusion-puffed, soy protein and soy protein concentrate. The protein materials of the two references are different and there is no indication that they are interchangeable.

Thus, the references, alone or combined, do not teach or suggest each and every element of the claimed subject matter, nor is there any suggestion or motivation to combine the references. Applicants respectfully request that the rejection under 35 U.S.C. 103(a) be withdrawn.

CONCLUSION

Applicants submit that claims 26-31 and 34-46 of the subject application recite a novel and non-obvious methods for altering one or more textural properties of a food product. Further, Applicants submit that the amendments to claims 26 and 42 do not present new subject matter and merely clarify the claims and placing the application in condition for allowance. In view of the amendments and remarks presented above, Applicants respectfully submit that the subject application is in condition for allowance. Accordingly, reconsideration of the rejections and allowance of claims 26-31 and 34-46 at an early date are earnestly solicited.

If the undersigned can be of assistance to the Examiner in addressing issues to advance the application to allowance, please contact the undersigned at the number set forth below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. L. Kent', with a long horizontal flourish extending to the left.

Joseph L. Kent  
Registration No. 54,216  
Customer No. 41,835

KIRKPATRICK & LOCKHART NICHOLSON GRAHAM LLP  
Henry W. Oliver Building  
535 Smithfield Street  
Pittsburgh, Pennsylvania 15222  
Telephone: (412) 355-8315  
Facsimile: (412) 355-6501